

that have monitored development projects and had some successes in winning adherence to environmental provisions.

While environmentalists generally contend that bank response to their criticism has been inadequate, most concede that the bank has recently given more attention to environmental issues. The bank is currently in the throes of a study that is expected to recommend organizational changes designed to enable it to handle environmental and natural resource issues more effectively. And Conable's public pronouncements on the environment have fueled hopes that he will wield a new broom vigorously.

In his speech at the recent annual meeting, he listed attention to the environment as among the ingredients necessary for sustained development and later observed that, "we should need little reminder of Francis Bacon's insight: 'Nature, to be commanded, must be obeyed.' To keep development in harmony with natural forces and resources, we must apply that lesson on the largest scale—from the planning stage through the execution of every project."

Conable came to the bank without direct experience in international finance or in administering a large organization. He spent 20 years as a Republican Congressman from upstate New York and was ranking minority member of the tax-writing Ways and Means Committee when he resigned from Congress in 1984. A self-styled conservative, he was highly regarded in both parties for his command of tax legislation and his skill in achieving consensus on difficult issues in Congress. A lawyer, Conable took up a professorship in political science at the University of Rochester when he left Congress. His links with Congress and standing with the Administration are expected to enhance the bank's relations with the U.S. government. Because he compiled a proenvironment voting record in Congress, Conable was regarded as receptive to pleas for environmental reform when he came to the bank.

David Wirth of the Natural Resources Defense Council (NRDC) says his organization is "hopeful that Conable will make rapid changes for the better in the bank." However, he says environmental groups are realistic in recognizing that the bank is "a huge bureaucracy" that is difficult to change and that it will be necessary to "keep the pressure on."

In his speech at the bank's annual meeting, Conable introduced himself as "a lawyer and negotiator." On the environmental question, Conable is likely to be tested as a negotiator by both the environmentalists and his own World Bank bureaucracy. ■

JOHN WALSH

Soviets Decline Offer to Monitor U.S. Test

A team of Soviet seismologists will visit the United States in early November to lay the groundwork for recording seismic signals around the U.S. underground nuclear test site in Nevada. However, because the Soviet Union has declined an offer from the Reagan Administration for the team to monitor a blast at the test site, the Administration has placed strict limits on the scientists' itinerary.

Thus goes the latest twist in a unique private arrangement between U.S. and Soviet scientists for sharing information that could be useful for verifying compliance with a treaty banning underground nuclear weapons tests. Under the arrangement, agreed to in June by the Natural Resources Defense Council (NRDC), an American environmental organization, and the Soviet Academy of Sciences, seismic monitoring equipment has already been placed close to the Soviet nuclear test site at Semipalatinsk (*Science*, 18 July, p. 278). The installation was jointly supervised by American and Soviet scientists.

A team of Soviet seismologists was scheduled to come to the United States to help plan the installation of similar monitoring equipment on privately owned land near the Nevada test site. However, the Reagan Administration, which has resisted Soviet proposals to resume negotiations for a comprehensive test ban, placed restrictions on their visit.

According to Thomas Cochran, a physicist who is managing the program at NRDC, the Administration said it would give the team visas that would allow them to visit sites where seismometers will be installed only if they agreed to witness a test at the Nevada test site and discuss measures to verify the existing treaty, which limits explosions to 150 kilotons.

The Administration has argued that new measures are needed to verify the existing treaty—it has accused the Soviet Union of violating it in the past—while the Soviet Union says it is interested only in moving toward a comprehensive test ban. "The White House tried to inject its own agenda into our program," contends Cochran.

The Soviets, apparently wary of signaling any willingness to move toward the U.S. position, declined the offer. The Administration then issued members of the team with visas that restricted their visit to New York, San Diego, Dallas, and Washington. They will not be permitted to visit the sites where the seismometers will be installed. However, Cochran notes that the scientists will have an opportunity to discuss and plan

the installation with their American colleagues.

The aim of the agreement is to obtain seismic information that would help discriminate between earth tremors and small explosions, and to demonstrate that a complete ban on nuclear testing could be adequately verified. Seismic data from the monitoring stations set up in the Soviet Union and those to be installed in the United States will be publicly available—including to the Department of Defense. ■

COLIN NORMAN

Grasshopper Control Program Successful

A month of pesticide spraying by American aircraft has averted serious crop losses from migratory grasshoppers in four West African countries—Senegal, Mali, Mauritania, and The Gambia. The program, which uses DC-7's under contract to the U.S. Agency for International Development (AID), is the largest single operation in an international effort to control serious outbreaks of locusts and grasshoppers in a score of countries in sub-Saharan Africa (*Science*, 3 October, p. 17). Preliminary assessments indicate the campaign has been generally successful in protecting crops in the region.

The spraying operations, using four DC-7's, had been originally intended to cover about 400,000 hectares, primarily in Senegal. However, the success of that operation in September and the location of grasshopper infestations in other areas prompted a decision to undertake another round of spraying. The DC-7's then operated in Mali, Mauritania, and The Gambia as well as Senegal. In all, more than twice as much territory was sprayed as originally scheduled. Total cost of the operation was about \$2.7 million.

In the areas covered by the first round of spray operations in September, AID officials in Senegal estimate that crop losses to grasshoppers were kept to about 5%. The second round of spraying in October was somewhat less effective in protecting crops, but is expected to limit the size of the generation of grasshoppers which will hatch next year from eggs laid this year. Another grasshopper threat in Senegal and surrounding countries is anticipated in 1987, and planning is under way to forestall another emergency.

A sad note was injected into the successful effort by the crash of one of the DC-7's on 9

October shortly after it took off from the airport at Dakar, Senegal. Three of the four crew members aboard were killed in the crash. Some 3000 gallons of the pesticide malathion were released in the air over the sea by the crew to lighten the plane in an attempt to return to the airport.

Concern about the effects of pesticide in the waters off the populous Cap-Vert peninsula prompted Senegal's Ministry of Health to close beaches in the vicinity and issue media warnings against fishing in the area or eating seafood from there. U.S. entomologists in Senegal at the time surveyed the site of the crash and reported no signs of pesticide pollution. AID officials say no complaints of ill effects have been recorded. ■

JOHN WALSH

Campaign Promises Delay Waste Program

Election politics have upset the government's plans to find a permanent burial place for high-level nuclear wastes. Perhaps the greatest disruption has been in the state of Washington. Prompted by this fall's campaigns, the Department of Energy (DOE) has promised to put off for at least a year all geological research on candidate sites, forcing delays in the entire program.

Energy Secretary John Herrington made this promise in a letter to Senator Slade Gorton (R-WA) in mid-October. Gorton, who chairs the Senate commerce subcommittee on science, was challenged in a close race by Brock Adams, the former Democratic secretary of transportation. The candidates seemed to strive to outdo one another in promises to keep a nuclear waste site out of Washington.

The furor began with Herrington's decision in May to make Washington one of three final candidates for the waste facility. Since then, opponents of the program have discovered papers showing that DOE rearranged the ranking of sites recommended by a technical review so that Washington came out not fifth, but third in desirability. Adams called for Herrington's resignation and Gorton's defeat. Gorton has replied by saying that if Democrats take over the Senate, the chairmanship of a key committee could pass from a Northwesterner to a Southerner, who would be happy to have nuclear waste go to Washington rather than his own state of Mississippi, which also is on the list of candidate waste sites.

Like many others this year, the Washington campaign had a strong parochial flavor. ■ ELIOT MARSHALL

Briefing:

Academy Members Skeptical on SDI

Members of the National Academy of Sciences in disciplines relevant to the Strategic Defense Initiative (SDI) oppose the program, at least in its present form, by a wide margin, and they are highly skeptical that it could ever result in survivable and cost-effective defense of population centers, according to a poll conducted by Cornell University's Institute for Social and Economic research.

The survey, in which 451 of 634 eligible Academy members in the physical, mathematical, and engineering sciences took part, found that only 9.8% of the respondents support or strongly support the program, while 25% said they oppose it and a further 54.4% said they are strongly opposed.

Asked whether an SDI system is likely to be survivable and cost effective at the margin—the Administration's chief criteria—within 25 years, 11.6% rated the chances even or better, 25.5% said the prospects are poor, and 55.2% felt the odds are extremely poor. (Some 60.8% of the respondents claimed to be familiar or very familiar with the technological issues relevant to SDI, while 31.5% said they were slightly familiar and 7.6% said they were not familiar.)

Perhaps not surprisingly in view of the other findings, 84.5% said they believe that scientific review has not played a sufficiently important role in structuring the SDI program, and about 60% felt the program should receive less than \$1.5 billion a year, less than half the current level of funding. ■ C.N.

Chipmakers Protest

American semiconductor makers recently fired a warning shot, threatening to resume a legal battle against Japanese chip imports if action they desire does not take place by 15 November. George Scalise, chairman of the public policy committee of the Semiconductor Industry Association, wrote to the U.S. Trade Representative that Japanese companies have "completely ignored" the trade agreement reached 3 months ago. He accused them of committing "outright violations" by selling chips at less than fair market prices in Japan and other countries.

If the issue cannot be resolved by 15 November, Scalise wrote, he will urge the U.S. government to take new action against Japanese imports. Trade officials from both countries are meeting to try to iron out these differences. ■ E.M.

AAU's Poem to Itself

America's major research universities, represented in Washington by the Association of American Universities, took steps at a recent meeting to define themselves for all interested parties—namely, members of Congress, the Administration, and the press. The task was accomplished by Washington University chancellor William Danforth who wrote that the universities are:

rich, but needy;
powerful, but loved;
able to pursue institutional
self-interest, but in a spirit
of altruism;
elite, but of the people;
effective, but not professional;
pure, but politically astute and
adept;
economically successful, but
incorruptible.

The AAU has asked that the poem be posted in "appropriate places." ■ B.J.C.

Blueprint for R&D

U.S. universities plan to spend a total of \$7.5 billion to build and renovate research facilities in the next 5 years, including \$1.7 billion on projects now in progress. A survey of 165 doctorate-granting institutions done for the National Science Foundation indicates that the 50 universities with the highest R&D expenditures average three times as much space designated for research as institutions with smaller R&D budgets. According to the survey, the universities expect the federal government to fund only 6% of the construction planned through 1991. State governments are counted on to provide two-fifths of the total. ■ J.W.

Comings and Goings

James D. Ebert will become director of the Chesapeake Bay Institute at Johns Hopkins University next year, following his retirement as president of the Carnegie Institution of Washington. Ebert will be returning to his alma mater; he earned a Ph.D. from Johns Hopkins in 1950 and held faculty positions there in biology and embryology from 1956 to 1978.

Meanwhile, Johns Hopkins University president Steven Muller has been elected chairman of the Association of American Universities, the organization that represents the presidents and chancellors of 54 American and two Canadian universities.